

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 54069	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/EP2003/012776	International filing date (day/month/year) 14 November 2003 (14.11.2003)	Priority date (day/month/year) 15 November 2002 (15.11.2002)
International Patent Classification (IPC) or national classification and IPC A01N 43/90		
Applicant BASF AKTIENGESELLSCHAFT		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand 28 May 2004 (28.05.2004)	Date of completion of this report 06 December 2004 (06.12.2004)
Name and mailing address of the IPEA/EP	Authorized officer
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2003/012776

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☒ the description:
- pages _____ 1-10 _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ 1-10 _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/EP 03/12776

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims	1-10	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following international search report citations:

- D1: WO 98/46607 A
- D2: EP 988790 A
- D3: WO 99/048367 A
- D4: US 5593996 A
- D5: US 6268371 A

Novelty

The present application satisfies the requirement of PCT Article 33(1) in conjunction with PCT Article 33(2), because the subject matter of claims 1 to 10 is novel.

The subject matter of independent claim 1 is a fungicidal mixture of orysastrobin, an active ingredient from the class of strobilurins, and a specific fungicidal triazolopyrimidine (hereinafter referred to as TP1) in a synergistically effective amount. The other independent claims 4, 9 and 10 are directed to a method for the control of rice-pathogenic harmful fungi using a mixture of this kind, to seed resulting from such a method and containing such a mixture, and to the use of the two compounds for the production of agents for the control of

rice-pathogenic harmful fungi, respectively.

None of the above citations discloses the specific mixture forming the subject matter of the present application.

D1 discloses *inter alia* the compound TP1 and its efficacy against rice diseases such as *Pyricularia oryzae*; D1 also mentions the possibility of its being mixed with other fungicides.

D2 discloses synergistic mixtures of triazolopyrimidines with other fungicides such as the strobilurins kresoxim-methyl, azoxystrobin and trifloxystrobin.

D3 discloses synergistic mixtures of orysastrobin with other strobilurins.

D4 demonstrates the efficacy of triazolopyrimidines as used in D2 against *Pyricularia oryzae*.

Lastly, D5 discloses synergistic mixtures of triazolopyrimidines known from D4 with the amide fungicide fenoxanil, especially for the control of rice-pathogenic *Pyricularia* and *Rhizoctonia* fungi.

Inventive step

The present application satisfies the requirements of PCT Article 33(1) in conjunction with PCT Article 33(3), because the subject matter of claims 1 to 10 involves an inventive step.

In the light of the description and the closest prior art in citation D1, the problem addressed by the application can be considered that of providing synergistic mixtures of triazolopyrimidines with other fungicides suitable for

the control of rice pathogens, that is to say combining a high level of systemicity with good efficacy against *Pyricularia oryzae* and *Rhizoctonia solani*.

The proposed solution is characterised by the use of the specific triazolopyrimidine TP1 in combination with orysastrobin.

The closest prior art document discloses that certain 2,4,6-trifluorophenyl-triazolopyrimidines exhibit very good efficacy against the rice pathogens *Pyricularia grisea* f. sp. *oryzae* (teleomorph: *Magnaporthe gr. f. sp. oryzae*) and *Rhizoctonia solani*, including the compound TP1. Said document also refers to citation D3 as an earlier publication of this general class of substances and notes that the compounds selected in D1 have enhanced systemicity and efficacy against rice diseases, evidently by comparison with the compounds specifically referred to in D3.

Also proposed is a mixture with other fungicides which might lead to a synergistic effect (see the passages in D1 cited in the search report).

However, the compound in the present application has to be specifically selected from the D1 triazolostrobins, and orysastrobin also has to be specifically selected as the other component instead of one of the compounds listed in D1. The additional information in D2 cannot render one or the other obvious, since D2 selects other triazolopyrimidines and does not even mention orysastrobin. Proceeding from D2 *mutatis mutandis* the triazolopyrimidine would again have to be selected and, moreover, kresoxim-methyl, azoxystrobin or trifloxystrobin would have to be replaced by orysastrobin; there is no

reason to do this, since D2 makes no clear reference to the control of rice pathogens. The additional information in D1 can likewise not render obvious the specific triazolopyrimidine, and certainly not orysastrobin. The proposed solution is therefore not obvious.

Industrial applicability

The subject matter of claims 1 to 10 is considered to be industrially applicable (PCT Article 33(1) and (4)).